

The Sensotek Tau® sensor range is used to continuously monitor your vibratory equipment. Reporting key parameters to our cloud based Analytix® platform, these values can be trended over time and used to identify faults or inefficiencies with your equipment.

Tau E Structure Datasheet



Magnetic



Bolted

The Sensotek Tau® E Structure sensor ANTS1002, is a digital stroke card.

Key Applications

- Vibrating Screens
- Feeders
- Crushers
- Any machine with a given motion:
 - Elliptical
 - Circular
 - Linear

Product Improvements

Improved battery life (4+ years)
Waveform and stroke plot data sampling
Stronger magnetic fitting

Product Variant

TS- <u>m</u> 01	
<u>m</u> – mounting method	
0	Magnetic
1	Bolted
2	Stud Mount

Mechanical

Physical	
Dimensions	See dimension section
Weight (Magnet)	
Weight (Bolted)	
Lid Material – Lid	POM-GF20
Material – Magnetic Base	Anodised Aluminium
Material – Bolted Base	Stainless Steel
Environmental	
Operating Temperature	-40 to 85°C (-40 to 185°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Sealing	IP69K
Shock	1000g

Power Supply

Battery	
Type	Non-Replaceable 3.6V
Energy	1700mAh (New)
Chemistry	Lithium Thionyl Chloride
Life (Standard)	5 years
Impact to Life	Temperature, Transmission Rate Humidity

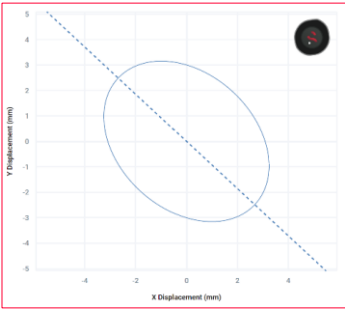
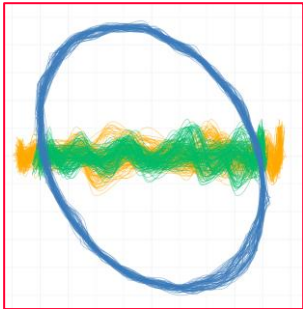
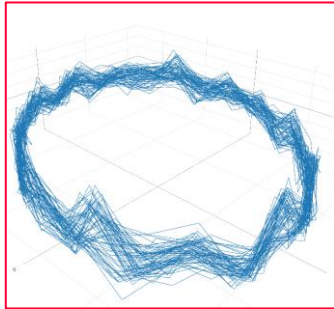
Communication

Stroke Data Sampling	
Time	10 seconds
Rate	5 minutes
Waveform Data Sampling (New)	
Time	4 seconds
Rate	8 hours
Data Transmission	
Effective Range	250 meters Line-of-Sight
Frequency	<1GHz ISM Band
Sensotek Channel	Channel 2

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Data Measurement and Sampling	
Temperature	
Temperature Range	-40 to 85°C (-40 to 185°F)
Temperature Accuracy	±2°C
Vibration	
Axes	X, Y, Z
Sampling Frequency	See sampling section
Vibration Measurements	Stroke Raw Waveform Spectrum

Calculated Parameters	
Parameter	Unit
Stroke Length	mm
Stroke Angle	degrees
Phase Angle	degrees
Running Speed	RPM or Hz
Deflection (Velocity)	mm/s
Deflection (Displacement)	mm
Peak Displacement (X/Y)	mm
Screen Uptime	5-minute resolution
Rotating Pattern	representative image

Time Series and Stroke Plot Data		
 2D Stroke Plot	 2D Time Waveform (Axes Comparison)	 3D Time Plot

Stroke Sampling Details * ¹	
Range (Acceleration)	-8 to +8g
Sample Time	10 seconds
Sample Rate	409.6 Hz
Sample Count	4096
Bin Resolution	0.1 Hz

Accuracy * ²	
Raw Accelerometer	
Acceleration (Peak)	±0.05 g
Resultant Values	
Stroke Length	± 0.14 mm
Stroke Angle*	± 2 deg
RPM	± 6 RPM
Z Velocity	± 1 mm/s

Waveform Sampling Details * ¹	
Range (Acceleration)	Autoscaling up to ±16G
Sample Time	4 seconds
Sample Rate	1024 Hz
Sample Count	4096
Spectrum FMax	400 Hz
Spectrum LOR	1600
Bin Resolution	0.25 Hz

*¹ – Parameters are calculated on-sensor and transmitted to the Analytix Platform

*² – Stroke accuracy is dependent on RPM, reading. Accuracy is defined at 18Hz (1080 RPM)

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Dimensions		
	Standard – Magnetic mounting option	Bolted mounting option
Dimensions	62mm x 46.5mm x Ø 38.5mm	62mm x 35mm x 96mm
Weight	260g	240g
Base Material	Aluminium (Clear Anodised)	Stainless Steel 304
